Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

In the Matter of	)	
	)	
Compatibility Between	)	File No. 93-7
Cable Systems and Consumer	)	
Electronics Equipment	)	

COMMENTS OF VIDEOMAKER MAGAZINE, INC.

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Videomaker, Inc. ("Videomaker") hereby submits these comments in response to the Supplemental Comments filed on July 21, 1993 by the Cable-Consumer Electronics Compatibility Advisory Group ("Advisory Group").

I. INTRODUCTION

In its Supplemental Comments, the Advisory Group makes a good start at increasing the compatibility between cable TV and consumer electronics hardware to the benefit of the consumer. The Advisory Group's recommendation to replace the current cable converter/descramblers with standardized decoders and decoder interfaces should indeed make it easier for consumers to record one program while watching another and to record higher quality images than now possible. Their recommendations would lead to the development of VCRs, for example, that could be hooked directly to the cable, eliminating the duplicated circuits in the converter.

The standardized decoder technology, however, is only part of what the consumer requires to enjoy more fully the potentials of cable television. Congress has mandated that a dialogue

begin concerning the "means of assuring compatibility between televisions and video cassette recorders and cable systems." Another important component in ensuring such compatibility, not mentioned by the Advisory Group, is standardization of program directory and retrieval systems. The lack of a comprehensive directory system presently makes it impossible for the consumer to know even the titles of all the programs scheduled for broadcast to his home. The lack of a standardized retrieval system makes it extremely difficult to learn to program most VCRs. The result: only the rare consumer actually programs his VCR to record odd-hour programs. If directory and retrieval systems were standardized and easy to use, late night cable hours would become almost as valuable as prime-time hours. They would become attractive to innovative producers of new programs.

Thus, while the Advisory Group has focused on the need for compatibility between television equipment and cable service, the Advisory Group should broaden its focus to consider the need for compatibility between the <u>users</u> of that equipment on the cable service they receive. Accordingly, Videomaker hereby recommends that, in addition to the issues it is already reviewing, the FCC instruct the Advisory Group to study the need for standards in directory and retrieval programs and to report its findings to the FCC.

II. DISCUSSION

A. The Coming Of The "Information Highway"

In the near future, watching television will be much more complicated than it is today. Thanks to fiber optics and compression technology, there will soon be more than 500 cable TV channels, each serving up thousands of television programs a year. In addition, telephone companies are expected to deliver video programs over their lines within a few years. This adds up to an abundance of programming as well as choices for the TV watchers across the nation.

The TV of tomorrow will offer more than just conventional programming. It will also offer computer software programs, paperless newspapers and digital music, all delivered to the home through wires or microwaves instead of the floppy disks, paper, cassettes and CDs used today.

In effect, the TV screen will soon become a windshield facing what has been popularly termed the "superhighway" of information.

How will viewers find their way along the highway? When looking for a show to watch today, most people simply consult the listings in the newspaper or check out the program grid in TV Guide. One would need a huge grid to list all the addresses soon to appear on the digital roadway.

If the average viewer is to be able to navigate this superhighway, we need to establish some ground rules. These

ground rules begin with the setting of universal standards for listing and retrieving programs.

B. A Driver's Interface Should Be Established

Like our national roadway system, the information superhighway will become a part of our country's very infrastructure. It is therefore imperative that we provide the same sort of standardization that supports ground transportation in this country.

Learn to drive a car and you can drive any car down any road in America. That is because American cars and roads conform to established design standards or interface. Get in any car, and you will find the accelerator on the right and the brake on the left, just where you expect them to be. Wherever you go, red octagonal road signs tell you to stop. Whether you are driving through Georgia or California, green lights tell you to go.

We take for granted the government standards that ensure our familiarity with both the vehicles we drive and the roads we drive them on. So far, however, we have not been so lucky when it comes to television navigation. There is no such standardization; the systems for the listing and retrieval of television programs have developed idiosyncratically at the whim of advertisers, marketers, programmers and consumer electronics manufacturers. It is these profit-minded groups -- not the

government -- that have most influenced not only what we watch but when and how we watch it.

The unfortunate fact is that the TV interfaces these manufacturers have developed to date are inadequate to our fast-developing information environment.

In addition to the listings in TV Guide and local papers, some cable systems offer electronic listings in the form of on-screen menus. This listing is usually shown throughout the day on a dedicated channel. The viewer tunes into this channel and finds the time and channel of the show he wants.

Yet even such listing channels are not standardized. Different cable systems use different software packages to run the on-screen menus; the screen you see in Philadelphia is not necessarily the one you will see in Phoenix. And some systems do not have listings channels at all. Retrieval interfaces are even more diverse. To actually view the program you have selected you may have to push certain buttons on your TV's remote control, more buttons on your cable converter box, and figure out how to program your VCR.

Very few viewers fully understand all the indexing and retrieval systems available today for cable TV, satellite television, and VCRs, not to mention other consumer electronics products. Telephone-delivered TV and 500 channels of cable will most certainly compound the confusion.

Many people cannot program their VCRs, much less their universal remote controls. As the information superhighway

becomes a reality, this confusion on the part of viewers is bound to increase. All the more reason to establish standards for these interfaces -- standards for listing and retrieval systems.

The telephone is an example of a communication tool with a successful standard interface. The product of a tightly controlled monopoly, the telephone system's interface has been standardized from the get go. The keypads on push-button phones have always featured twelve keys arranged in the same configuration -- the numeral "1" at the top left and "0" at bottom center. Pick up any phone and there is a dial tone. Dial a number and you hear a ring or a busy signal. Thanks to this standardization, it is very easy to use a telephone -- no matter where you are in America.

C. Choosing The Right Standard

There is a need for national standards to index and retrieve video information. Interfaces that will best serve the viewing public must be developed.

There are a number of factors to keep in mind. A single standard for all delivery systems that uses a screen, including cable TV, broadcast TV, direct broadcasts from satellites and switched telephone networks such as ISDN or video dial tone, should be used. These programs should play on as many hardware devices as possible.

Ignore these considerations, and we could end up with more TV interfaces than we now have a computer platforms. The variety of computer platforms has created a number of problems for users. Different employees in the same company cannot share software, i.e., Macintosh vs. IBM vs. UNIX. Families struggle with the platform decision as well when purchasing a computer for the home.

This proliferation of computer platforms is the result of short-sightedness. Adopting a single national computer standard seemed unnecessary when personal computers were first developed. No one foresaw the widespread consumer acceptance of the personal computer.

Hindsight tells us that an integrated processor and an operating system were at the heart of the personal computer; they could have been standardized. Now we know that these same two elements are the keys to the hardware that will provide listings and program retrieval for viewers on the information superhighway.

D. The Need For Universality

Picture this: a 65 year old woman spends years learning the listing and retrieval system provided by the cable company in her hometown. To be closer to her grandchildren, she moves a few miles away and -- thanks to the lack of standards -- she finds herself unable to operate her remote control or program her VCR. Besides missing her favorite TV shows, she may have

come to rely on the system for news, shopping, banking and monitoring her home for crime and fire safety.

Everyone should be able to drive on the nation's info-highway regardless of age, race, creed or socio-economic status. Information will be the great equalizer of the twenty-first century. Access to that information is far too important to leave to market forces.

If a national standard is not developed, the cable TV industry is likely to control the systems employed for the delivery of their programs, while the telephone companies may develop yet other interfaces for video dial tone services.

Numerous hardware and software developers are already courting the cable companies with plans for listing and retrieval systems. Many of these cable companies have already shown an interest in controlling content and delivery of programming. They are becoming very powerful, with control or financial interests in many parts of the industry. One cable conglomerate alone, TCI, owns nearly 20 percent of all of the cable systems in the country, as well as a large part of the cable TV program production companies like CNN.

Such control of both production and distribution is called "vertical integration." It has a monopolizing effect, restraining free trade. In light of this control, the government is currently considering regulations designed to limit the number of cable systems conglomerates can own.

It cannot happen soon enough; the evolution of the information superhighway is progressing at a dramatic pace. Each week sees significant new developments. A regional telephone company, Bell Atlantic, is already offering its management TV shows delivered over the phone lines in northern Virginia. Five hundred (500)-channel cable TV will become experimentally available before 1994 is over.

In the month of June alone, two companies announced their intent to market user interfaces for the superhighway. More are on the way. In fact, we can expect to see over a dozen contenders.

An examination of some listing systems in other industries that work -- systems that can serve as models for the listing and retrieval system for the information superhighway -- is in order.

E. Listing System Models

As with computer software, the video user interface could serve as a launching pad into other applications. We can expect to see a plethora of applications for interactive TV, from home shopping to game shows. But the single most popular application will be the listing system viewers use to navigate the information superhighway. A workable listing system would feature the following:

- completeness,
- objectivity,

- efficiency, and
- ease of use.

Our national library system provides examples of two efficient listing systems. These are the Library of Congress system and the Dewey Decimal system. Both allow readers to easily navigate through a wealth of printed material. It would be best to have one universal system, but at least each of these is comprehensive. Both systems not only facilitate the search for knowledge, they also establish general categories of knowledge for writers, publishers and readers alike.

These listing systems are far more versatile than their TV counterparts. A reader can search for a book by title, subject, or author. In contrast, TV programs are generally listed only by time of airing. This is the equivalent of listing each book in the library based upon how far one has to walk to get it.

The telephone company provides another efficient model for listing. The regional Bell companies use a national listing system, the White Pages. This gives listings of the system's users giving names, and telephone numbers for them all except those who desire not to be listed.

The U.S. Post Office's addressing system is another useful navigation tool. The government sets the standard here: name, street, city, state and zip code. One can find most places with an adequate address and a road map. Letters and packages usually arrive where they are sent.

F. Present Inadequacy

Given these criteria, the current television listing systems do not make the grade. These systems -- which consist mainly of TV Guide and cable TV on-screen listings -- are often incomplete.

For example: these systems often omit remnant-time programming. These are programs run on existing channels after the end of their regular broadcast day. If these late night infomercials appear in listings at all, they are called simply "Paid Programs." Each show is not identified by name. This is largely because the systems providing listings information have a bias against these types of programs.

The current systems harbor a similar bias against leased access programming. The concept of leased access was created by Congress when it mandated that cable operators lease channels to "assure that the widest possible diversity of information sources are made available to the public from cable systems." In the Cable Act of 1992, Congress broadened these requirements "to promote competition in the delivery of diverse sources of video programming."

It is ironic that leased access channels are rarely included in TV listings, either on-screen or in the local paper. Perhaps the cable systems keep them out of the listings because they compete with the system's own programming for audience share and advertisers.

One might think it would be different in the case of "independent" listings like TV Guide, but it is not. Cable companies provide the scheduling information to the publishers of TV Guide -- conveniently omitting leased access programming. Leased access producers cannot submit scheduling information directly to TV Guide.

Producers of this alternative programming are effectively shut out of the TV establishment. There is no reason to believe this will change with the coming of the superhighway.

The lack of objectivity in current listings perverts the system. Here, the television industry controls which programs viewers find out about -- a stark contrast from a library's card catalogue which lists every book equally. There is no advertising pressure in a library's card catalogue; it is simply a comprehensive listing of inventory.

An interesting study of the lack of objectivity can be found in the history of the telephone. In 1892 Almon Strowger noticed that his business was declining. There were only two undertakers in La Porte, Indiana, and his competitor's business was thriving. As it turned out, the wife of his competitor was the telephone operator of La Porte. Strowger suspected that when someone called the central telephone office the biased operator connected the caller to her husband's undertaking business. Strowger was obsessed with overcoming the bias of the operator, so he invented the rotary telephone dial. In this case technological innovation overcame the bias.

G. New Listing Systems

As of July 1993, there were six TV listing and retrieval systems. Each system has its drawbacks; however, the biggest drawback is the fact that there are six different systems. Below is a brief description of each of these systems.

- StarSight. Partially owned by interests in the cable industry, StarSight has developed a listing and retrieval system that employs One Touch Recording (OTR). This allows the viewer to find a program title on screen and program his VCR to record it with the push of one button on his remote control. The system appears to be objective because it includes no advertising.
- TV Guide. TV Guide has joined forces with TCI, the largest multiple cable system operator. Their system does not include OTR, and TCI is vertically integrated. The company owns the content (the TV programs to be shown), the means of delivery (the cable companies) and, soon, the technology for providing listings information. It clearly has an interest in giving preferred delivery and listings to its own programs.
- Cablesoft. Cablesoft is the name of a joint venture between TCI and Microsoft. Details of this listing system have yet to be disclosed. The vertical integration of TCI is compounded by the Federal Trade

Commission's investigation of Microsoft for unfair trade practices.

- Your Choice TV. Your Choice TV is a listing system developed by Discovery Communications. Discovery is owned by several multiple cable companies and is a part of their vertical integration. The system does not employ OTR. On the contrary, Your Choice TV uses near-video-on-demand, an inefficient windowing technique.
- Prevue Network. Prevue Network is owned in part by interests in the cable industry and has several listing systems. Most of these include on-screen advertising, thereby precluding objectivity. None of the systems employs OTR.
- EZTV. EZTV was recently announced by Apple Computer. It is a listing system which also employs OTR and retains objectivity by prohibiting advertising.

Each of these systems might hold pieces of the ideal system, but none alone satisfies all the criteria that we should establish as national standards.

H. Some Better Ideas

More useful listing methods would include subject, title, director and year produced. An integrated processor could provide the data; this processor could either stand alone or be built into the cable TV control box. The TV screen would thus

become a sort of video encyclopedia. A retrieval system should work in this way: the viewer chooses a program to watch. if the program is not available at that time, the system should allow the viewer to obtain it at a later time by commanding the VCR to record the program. One touch recording, such as StarSight and EZTV use, is a very good idea.

At present, the VCR is a wasted resource. The designers of the VCR interface failed to adopt a standard method of retrieval. Consequently, most viewers use their VCR simply to play tapes rented from video rental stores often miles away. This defeats the original purpose of the VCR: to time shift, that is, record programs for later viewing. Time shifting provides efficient management of band width and delivery capacity.

I. The Government's Role In Standardization

Standards are important components of any infrastructure. To make sure all viewers can navigate the information superhighway easily, the FCC could describe and specify standards for program listing and retrieval. Each manufacturer can develop its own unique systems within the specifications, i.e., the buttons on the remote and the words and icons in the screen.

In the past, the federal government has played a part in guaranteeing the objectivity of listings data. For example, the

Department of Transportation forbade bias in the listings of airline schedules in electronic reservation systems.

The federal government indirectly guaranteed the completeness and objectivity of the White Pages when it barred telephone companies from developing content. To date, telephone companies, unlike cable TV companies, cannot provide the information transmitted on phone lines. They simply move information from point A to point B. Thus, the telephone company has no incentive to bias listings in the White Pages. This system serves telephone users well.

Similarly, cable TV viewers would be well served if the directories of system users, whether TV Guide-type magazines or on-screen listings, were also comprehensive.

Government standards to promote efficiency are common; note the standards applied to the automotive industry to promote fuel efficiency. There is a clear need for similar efficiency standards for VCRs and their retrieval systems, especially now with the advent of the superhighway. If the 80 percent of American households that have a VCR could easily command it to record programs, late night TV would become a national valuable resource, instead of the bottom of the programming barrel.

Listing and retrieval systems, like postal and telephone addressing, should be accurate and efficient. The government could set standards for listings that ensure completeness, objectivity and ease of use. It should require ease of retrieval with OTR systems. Such requirements would no more

depress the independent development of these systems than the standard set for left-side steering wheels depressed the number of car models in America.

J. The Future Is Now

With the information superhighway comes the opportunity to transform today's TV wasteland into a veritable utopia of programming -- programming that educates, enlightens and uplifts, as well as entertains. The possibilities are endless. If we meet the creative challenge of the information superhighway, we may one day look back on the first five decades of TV as "the Dark Ages."

Build the foundations of the superhighway wisely, in the best interests of all people, and we may witness the dawn of another "age of enlightenment." The information superhighway can launch us into a renaissance of this underdeveloped but all too powerful medium we call television.

Accordingly, Videomaker recommends that the FCC instruct the Cable-Consumer Electronics Compatibility Advisory Group to develop recommendations for standards in indexing and retrieval systems for cable TV and other media. These systems will, after all, provide the nation's navigation system for its information highway.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify this 10th day of August, 1993, that I have caused a copy of the foregoing "Comments of Videomaker Magazine, Inc." to be sent via first-class, postage prepaid, mail to the following:

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